Notice of Allowability	Application No.	Applicant(s)	
	09/982,587	FUJII ET AL.	
	Examiner	Art Unit	
	Mark Ruthkosky	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *9/26/2005*.

2. ☒ The allowed claim(s) is/are *1-6,8-13 and 17-19*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

MARK RUTHKOSKY
PRIMARY EXAMINER
12-2-2005

DETAILED ACTION

A FUEL CELL SEPARATOR HAVING A CHANNEL FORMED USING A SEALING MEMBER

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/26/2005 has been entered.

Claim Rejections - 35 USC § 102

The rejection of claims 1-21 under 35 U.S.C. 102(e) as being anticipated by Nishida (JP 2000-021418 has been overcome by the applicant's amendment.

Allowable Subject Matter

Claims 1-6, 8-13, and 17-19 are allowed.

The following is an examiner's statement of reasons for allowance:

The instant claims are to a fuel cell comprising a pair of separators, a first of said separators having a plurality of linear protruding members on a first surface thereof forming grooves between adjacent protruding members; a membrane electrode assembly (MEA) including an electrolyte membrane and an anode and a cathode disposed at both sides of the

electrolyte membrane with the membrane electrode assembly being held by the pair of separators. A sealing member is disposed between the MEA and the first surface of the first of said pair of the separators, the sealing member including a circumferential portion surrounding at least a portion of the circumference of the first separator, and an extended portion seamlessly connected to and extending from the circumferential portion through a first groove between a first protruding member and a second protruding member adjacent to the first protruding member to an end portion of the extended portion over the first surface of the first separator. A reactant gas channel is disposed between the MEA and the first separator, wherein the reactant gas channel bends around the end portion of the extended portion of the sealing member, the extended portion of the sealing member extending along a significant portion of the gas channel in order to direct the flow of a fluid flowing there along.

The prior art does not teach a fuel cell including the claimed relationship between the first separator and a sealing member including a circumferential portion surrounding at least a portion of the circumference of the first separator, and an extended portion seamlessly connected to and extending from the circumferential portion *through* a first groove between a first protruding member and a second protruding member adjacent to the first protruding member to an end portion of the extended portion over the first surface of the first separator forming a reactant gas channel that bends around the end portion of the extended portion of the sealing member in order to direct the flow of a fluid flowing there along.

With regard to independent claim 17, the extended portion extends seamlessly from sail circumferential portion over a flat surface between first and second adjacent protruding members

in a longitudinal direction over the first surface of the separator to an end portion of the extended portion such that the gas channel bends around end portion of the extended portion.

The most pertinent prior art has been presented. For example, Nishida (JP 2000-021418) teaches a fuel cell comprising a pair of separators; a membrane electrode assembly (MEA) including an electrolyte membrane and an anode and a cathode disposed at both sides of the electrolyte membrane with the membrane electrode assembly being held by the pair of separators see figures 2-3 and paragraphs 28-31.) The separator is a sheet metal plate (para. 24.) A sealing member is disposed between the MEA and a first of said pair of the separators, the sealing member including a circumferential portion surrounding at least a portion of the circumference of the first separator, and an extended portion (for example, see the features of the gasket in figures 2a and 2b which extend into the interior of the plate including elements 5 and 15) seamlessly connected to and extending from the circumferential portion over a surface of the separator (see figures 1-4 and the accompanying text in the disclosure of Nishida.) A reactant gas channel is disposed between the MEA and the first separator, wherein the reactant gas channel bends around the end portion of the extended portion of the sealing member, the extended portion of the sealing member extending along a significant portion of the gas channel in order to direct the flow of a fluid flowing there along (figures 2a and 2b.) The separator plate is made of thin metals and includes a plurality of grooved channels (figures) that transfer reactants (figures 1-4 and accompanying text.) A gas-guiding groove with a turning portion and a linear portion is disclosed (figure 2a.) The gas channels are u-shaped with portions of the sealing material extending to and along adjacent channels to separate the channels and form turning portions.

The reference does not teach a seal with an extended portion seamlessly connected to and extending from the circumferential portion through a first groove between a first protruding member and a second protruding member adjacent to the first protruding member to an end portion of the extended portion over the first surface of the first separator forming a reactant gas channel that bends around the end portion of the extended portion of the sealing member. As the prior art does not disclose or suggest this element between a separator and a sealing portion in a fuel cell, the claims are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Ruthkosky
Primary Patent Examiner
Art Unit 1745

12-2-2005

MARK RUTHKOSKY
PRIMARY EXAMINER